

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method for producing an optical element with at least one curved surface by spherical separation from a basic body with a spherical-separating body with cutting elements, comprising the steps of moving said separating body through said basic body or moving said basic body through said separating body, while at the same time rotating said basic body about said separating body or said separating body about said basic body with a rotating axis which passes through a center point, said basic body being accommodated in a receptacle further including the step of arranging the cutting element on the circumference of said separating body and placing a mechanical vibration damping element on the circumference of a separating body and adjusting its radial position to lessen vibration.
2. (Previously Presented) The method as claimed in claim 1, wherein said spherical-separating body rotates during a separating cut.
3. (Previously Presented) The method as claimed in claim 1, wherein said basic body rotates during a separating cut.
4. (Original) The method as claimed in claim 1, wherein at least two optical blanks for the optical element are removed from said basic body in such a way that a concave side of a first optical element and a convex side of a second optical element are formed simultaneously by a single separating cut.
5. (Original) The method as claimed in claim 4, wherein lenses are produced as optical elements.
6. (Original) The method as claimed in claim 5, wherein lenses are produced from quartz glass for projection lenses or lighting optics in microlithography.

7. (Original) The method as claimed in claim 5 wherein lenses are produced from crystals, such as calcium fluoride, barium chloride, magnesium fluoride or lithium fluoride, for projection lenses or lighting optics in microlithography.
8. (Currently Amended) A method for producing a lens for projection lenses or lighting optics in microlithography from quartz glass, comprising providing at least one curved surface by spherical separation from a basic body with a spherical- separating body with cutting elements on a periphery thereof, moving said separating body through said basic body or moving said basic body through said separating body, while at the same time producing a relative rotational movement between said basic body and said separating body with a rotating axis which passes through a center point, providing said basic body with two optical blanks for lenses so that a concave side of a first lens and convex side of a second lens may be produced simultaneously, and placing a mechanical vibration damping element on the circumference of a separating body and adjusting its radial position to lessen vibration.
9. (Previously Presented) The method as claimed in claim 8, wherein said spherical- separating body rotates during a separating cut.
10. (Previously Presented) The method as claimed in claim 8, wherein said basic body rotates during a separating cut.
11. (Cancelled) ~~The method as claimed in claim 8, wherein at least two optical blanks for the optical element are removed from said basic body in such a way that a concave side of a lens and a convex side of a lens are formed simultaneously by a single separating cut.~~
12. (Currently Amended) A device for producing optical lenses with at least one curved surface from a basic body, having a spherical separating body with a partial spherical shell in the form of a bell and cutting elements, said separating body or said basic body

being pivotable around a pivoting axis with a curvature about a pivoting point which corresponds to a curvature of a separating cut to be introduced into said basic body, said basic body being accommodated in at least one receptacle, wherein the basic body holds at least two optical blanks for lenses so that a concave side of a first lens and a convex side of a second lens can be produced simultaneously by the separating cut and said cutting elements are arranged on the outer circumference of the partial-spherical shell.

13. (Original) The device as claimed in claim 12, wherein said basic body is accommodated rotatably around its longitudinal axis in at least one receptacle.
14. (Previously Presented) The device as claimed in claim 12, wherein said separating body is provided with a drive device, with a rotating axis which passes through a center point of the pivoting movement.
15. (Cancelled) ~~The device as claimed in claim 12, wherein the optical elements to be produced are lenses, said spherical cap like separating body having a part-spherical shell and it being possible to remove from the basic body at least two optical blanks for lenses in such a way that a concave side of a first lens and a convex side of a second lens can be produced simultaneously by the separating cut.~~
16. (Cancelled) ~~The device as claimed in claim 15, wherein said separating body has a part-spherical shell in at least approximately the form of a bell, said cutting elements being arranged on the outer circumference of the part-spherical shell.~~
17. (Previously Presented) The device as claimed in claim 12, wherein said separating body has a partial-spherical shell, which is provided in the region of the pivoting axis of said separating body with a bore in which said basic body can be accommodated with its receptacle, and wherein said partial-spherical shell is held on its outer circumferential wall on said separating body by means of a holding device, said cutting elements being arranged on the inner circumference of said partial-spherical shell.

18. (Previously Presented) The device as claimed in claim 17, wherein the holding device for the partial-spherical shell has a clamping device, detachably connecting said partial-spherical shell to said separating body.
19. (Previously Presented) The device as claimed in claim 18, wherein the region of said separating body with which said partial-spherical shell is connected via said clamping device is formed at least approximately as a cylindrical housing.
20. (Previously Presented) The device as claimed in claim 19, wherein said cylindrical housing is supported by a rotary bearing on a fixed device .
21. (Original) The device as claimed in claim 19, wherein said cylindrical housing is provided with damping elements.
22. (Previously Presented) The device as claimed in claim 17, wherein said partial-spherical shell is provided with damping elements.
23. (Previously Presented) The device as claimed in claim 22, wherein one or more damping elements are integrated into said partial-spherical shell or connected to it.
24. (Previously Presented) The device as claimed in claim 23, wherein said damping elements are arranged on one or both sides of the partial-spherical shell.
25. (Cancelled) ~~The device as claimed in claim 24, wherein said damping elements are arranged displaceably in the radial direction on said partial spherical shell.~~
26. (Cancelled) ~~The device as claimed in claim 25, wherein said damping elements are displaceable individually under open loop or closed loop control by sensors which pick up vibrations of said partial spherical shell.~~

27. (Original) The device as claimed in claim 12, wherein said basic body is accommodated at both ends in receptacles pneumatically, mechanically, hydraulically or magnetically.
28. (Previously Presented) The device as claimed in claim 27, wherein one of said receptacles is provided with a rotary drive device and another receptacle is provided with a follower device.
29. (Previously Presented) The device as claimed in claim 27, wherein said receptacles are displaceable in the direction of the rotating axis, which passes through the pivoting point.
30. (Previously Presented) The device as claimed in claim 12, wherein said basic body is under an axial tensile force in the at least one receptacle in a clamped state during a separating cut.
31. (Previously Presented) The device as claimed in claim 12, wherein said separating body has a vibration-damping construction.
32. (Original) The device as claimed in claim 12, wherein said separating body is divided into two or more parts.
33. (Original) The device as claimed in claim 12, wherein said separating body is provided on at least one of its surfaces with depressions.
34. (Original) The device as claimed in claim 33, wherein said depressions are formed as grooves.
35. (Original) The device as claimed in claim 33, wherein said depressions pass completely through said separating body.

36. (Cancelled) ~~The device as claimed in claim 34, wherein said grooves are distributed irregularly over said separating body.~~
37. (Currently Amended) The device as claimed in claim 34, wherein said grooves are fluidly connected to said cutting elements.
38. (Original) The device as claimed in claim 12, wherein said cutting elements are arranged irregularly on said separating body.
39. (Previously Presented) The device as claimed in claim 12, wherein said cutting elements are formed in a wedge-shaped manner in cross section, the wider side of the wedge being located on an other periphery of said spherical separating body.
40. (Original) The device as claimed in claim 12, wherein said separating body is provided with clearances or bores in its circumferential wall.
41. (Previously Presented) A device for producing lenses from quartz glass for projection optics and lighting optics in microlithography with at least one curved surface from a basic body, with a spherical- separating body having a partial spherical shell and cutting elements on the outer periphery of the partial spherical shell, said separating body or said basic body being pivotable around a pivoting axis with a curvature about a pivoting point which corresponds to the curvature of a separating cut to be introduced into said basic body, and said basic body being accommodated in at least one receptacle, the basic body having at least two optical blanks for lenses so that a concave side of a first lens and a convex side of a second lens can be produced simultaneously.
42. (Original) The device as claimed in claim 41, wherein said basic body is accommodated rotatably around its longitudinal axis in at least one receptacle.
43. (Previously Presented) The device as claimed in claim 41, wherein said separating body is provided with a drive device, with a rotating axis which passes through a center point .

44. (Cancelled) ~~The device as claimed in claim 41, wherein said spherical cap-like separating body having a part spherical shell and it being possible to remove from the basic body at least two optical blanks for lenses in such a way that a concave side of a first lens and a convex side of a second lens can be produced simultaneously by the separating cut.~~
45. (Previously Presented) A method of producing an optical element with at least one curved surface by spherical separation from a basic body with a spherical separating body with cutting elements comprising the steps of moving said separating body through said basic body or moving said basic body through said separating body, while at the same time rotating a said basic body about said separating body said separating body about said basic body with a rotating axis which passes through a center point, said basic body being accommodated in a receptacle further including the step of arranging the cutting elements irregularly on the circumference of said separating body and providing a vibration damping to said separating body.
46. (Previously Presented) A method for producing an optical element with at least one curved surface by spherical separation from a basic body with a spherical-cap-like separating body with cutting elements including the steps of moving said separating body through said basic body or moving said basic body through said separating body, while at the same time a relative rotational movement takes place between said basic body and said separating body with a rotating axis which passes through a center point, removing at least two optical blanks for the optical element from said basic body and forming a concave side of a first optical element and a convex side of a second optical element simultaneously by a single separating cut.
47. (Previously Presented) A method for producing optical lenses providing said lenses with at least one curved surface by spherical separation from a basic body with a spherical-cap-like separating body with peripheral cutting elements, moving said separating body through said basic body or moving said basic body through said separating body, while at the same time producing a relative rotational movement between said basic body and

said separating body with a rotating axis which passes through a center point wherein at least two optical blanks for the optical element are removed from said basic body in such a way that a concave side of a first optical element and a convex side of a second optical element are formed simultaneously by a single separating cut.

48. (Previously Presented) A device for producing lenses with at least one curved surface from a basic body, with a spherical separating body with a partial spherical shell with cutting elements, said separating body or said basic body being pivotable around a pivoting axis with a curvature about a pivoting point which corresponds to a curvature of a separating cut to be introduced into said basic body, said basic body being accommodated at least one receptacle wherein the basic body holds at least two optical blanks for lenses in such a way that a concave side of a first lens and a convex side of a second lens can be removed and then produced simultaneously by a separating cut.
49. (Previously Presented) A method of producing an optical element with at least one curved surface by spherical separation from a basic body with a spherical separating body with cutting elements comprising the steps of moving said separating body through said basic body or moving said basic body through said separating body, while at the same time rotating a said basic body about said separating body said separating body about said basic body with a rotating axis which passes through a center point, said basic body being accommodated in a receptacle further including the step of arranging the cutting elements irregularly on the circumference of said separating body.
50. (Previously Presented) A method of producing an optical element with at least one curved surface by spherical separation from a basic body with a spherical separating body with cutting elements comprising the steps of moving said separating body through said basic body or moving said basic body through said separating body, while at the same time rotating a said basic body about said separating body said separating body about said basic body with a rotating axis which passes through a center point, said basic body being accommodated in a receptacle further including the step of providing a vibration damping to said separating body.

51. (New) A device for producing optical lenses with at least one curved surface from a basic body, having a spherical separating body with a partial spherical shell in the form of a bell and cutting elements, said separating body or said basic body being pivotable around a pivoting axis with a curvature about a pivoting point which corresponds to a curvature of a separating cut to be introduced into said basic body, said basic body being accommodated in at least one receptacle, wherein the basic body holds at least two optical blanks for lenses so that a concave side of a first lens and a convex side of a second lens can be produced simultaneously by the separating cut and said cutting elements are arranged on the outer circumference or the inner circumference of the partial-spherical shell;
wherein said separating body has a partial-spherical shell, which is provided in the region of the pivoting axis of said separating body with a bore in which said basic body can be accommodated with its receptacle, and wherein said partial-spherical shell is held on its outer circumferential wall on said separating body by means of a holding device, wherein said partial-spherical shell is provided with one or more mechanical damping elements integrated into said partial-spherical shell or connected to it, wherein said mechanical damping elements are arranged on one or both sides of the partial-spherical shell and are arranged displaceably in the radial direction on said partial-spherical shell.
52. (New) The device as claimed in claim 51, wherein said mechanical damping elements are displaceable individually under open-loop or closed-loop control by sensors which pick up vibrations of said partial-spherical shell
53. (New) A device for producing optical lenses with at least one curved surface from a basic body, having a spherical separating body with a partial spherical shell in the form of a bell and cutting elements, said separating body or said basic body being pivotable around a pivoting axis with a curvature about a pivoting point which corresponds to a curvature of a separating cut to be introduced into said basic body, said basic body being accommodated in at least one receptacle, wherein the basic body holds at least two optical blanks for lenses so that a concave side of a first lens and a convex side of a

second lens can be produced simultaneously by the separating cut and said cutting elements are arranged on the outer circumference of the partial-spherical shell; wherein said separating body is provided on at least one of its surfaces with depressions; wherein said depressions are formed as grooves distributed irregularly over said separating body.

54. (New) A device for producing optical lenses with at least one curved surface from a basic body, having a spherical separating body with a partial spherical shell in the form of a bell and cutting elements, said separating body or said basic body being pivotable around a pivoting axis with a curvature about a pivoting point which corresponds to a curvature of a separating cut to be introduced into said basic body, said basic body being accommodated in at least one receptacle, wherein said basic body is provided with mechanical damping elements.
55. (New) A device for producing optical lenses with at least one curved surface from a basic body, having a spherical separating body with a partial spherical shell in the form of a bell and cutting elements, said separating body or said basic body being pivotable around a pivoting axis with a curvature about a pivoting point which corresponds to a curvature of a separating cut to be introduced into said basic body, said basic body being accommodated in at least one receptacle, wherein said separating body has a mechanical damping elements.
56. (New) A device for producing lenses from quartz glass for projection optics and lighting optics in microlithography with at least one curved surface from a basic body, with a spherical separating body having a partial spherical shell and cutting elements on the outer periphery of the partial spherical shell, said separating body or said basic body being pivotable around a pivoting axis with a curvature about a pivoting point which corresponds to the curvature of a separating cut to be introduced into said basic body, and said basic body being accommodated in at least one receptacle, the basic body having at least two optical blanks for lenses so that a concave side of a first lens and a convex side of a second lens can be produced simultaneously, wherein a movable

damping element is on the circumference of the separating body.

57. (New) The device as claimed in claim 56, wherein said basic body is accommodated rotatably around its longitudinal axis in at least one receptacle.
58. (New) The device as claimed in claim 56, wherein said separating body is provided with a drive device, with a rotating axis which passes through a center point .
59. (New) A method of producing an optical element with at least one curved surface by spherical separation from a basic body with a spherical separating body with cutting elements comprising the steps of moving said separating body through said basic body or moving said basic body through said separating body, while at the same time rotating a said basic body about said separating body said separating body about said basic body with a rotating axis which passes through a center point, said basic body being accommodated in a receptacle further including the step of arranging the cutting elements irregularly on the circumference of said separating body and placing a vibration damping element on the circumference of a separating body and adjusting its radial position to lessen vibration.
60. (New) A method for producing an optical element with at least one curved surface by spherical separation from a basic body with a spherical separating body with cutting elements including the steps of moving said separating body through said basic body or moving said basic body through said separating body, while at the same time a relative rotational movement takes place between said basic body and said separating body with a rotating axis which passes through a center point, removing at least two optical blanks for the optical element from said basic body, forming a concave side of a first optical element and a convex side of a second optical element simultaneously by a single separating cut, and further including placing a vibration damping element on the circumference of a separating body and adjusting its radial position to lessen vibration.

61. (New) A method for producing optical lenses providing said lenses with at least one curved surface by spherical separation from a basic body with a spherical separating body with peripheral cutting elements, moving said separating body through said basic body or moving said basic body through said separating body, while at the same time producing a relative rotational movement between said basic body and said separating body with a rotating axis which passes through a center point wherein at least two optical blanks for the optical element are removed from said basic body in such a way that a concave side of a first optical element and a convex side of a second optical element are formed simultaneously by a single separating cut, and further including placing a vibration damping element on the circumference of a separating body and adjusting its radial position to lessen vibration.
62. (New) A device for producing lenses with at least one curved surface from a basic body, with a spherical separating body with a partial spherical shell with cutting elements, said separating body or said basic body being pivotable around a pivoting axis with a curvature about a pivoting point which corresponds to a curvature of a separating cut to be introduced into said basic body, said basic body being accommodated at least one receptacle wherein the basic body holds at least two optical blanks for lenses in such a way that a concave side of a first lens and a convex side of a second lens can be removed and then produced simultaneously by a separating cut, wherein a mechanical, movable damping element is on the circumference of the separating body.
63. (New) A method of producing an optical element with at least one curved surface by spherical separation from a basic body with a spherical separating body with cutting elements comprising the steps of moving said separating body through said basic body or moving said basic body through said separating body, while at the same time rotating a said basic body about said separating body said separating body about said basic body with a rotating axis which passes through a center point, said basic body being accommodated in a receptacle further including the step of arranging the cutting elements irregularly on the circumference of said separating body, and further including

placing a vibration damping element on the circumference of a separating body and adjusting its radial position to lessen vibration.

64. (New) A method of producing an optical element with at least one curved surface by spherical separation from a basic body with a spherical separating body with cutting elements comprising the steps of moving said separating body through said basic body or moving said basic body through said separating body, while at the same time rotating a said basic body about said separating body said separating body about said basic body with a rotating axis which passes through a center point, said basic body being accommodated in a receptacle further including the step of placing a vibration damping element on the circumference of a separating body and adjusting its radial position to lessen vibration.